REMARKS

Claims 1-34 and 41-46 are present in the application and have been subjected to restriction by the Examiner under 35 U.S.C. 121 (37 C.F.R. 1.142) as follows:

Group I, claims 1, 4-9, 10 and 14-23, drawn to a DNA sequence encoding a cell cycle interacting protein, a vector, a host cell, a method for the production of transgenic plants, a transgenic plant and plant cell.

Group II, claims 2-3, drawn to a method for identifying and obtaining cell cycle interacting proteins.

Group III, claims 11 and 30, drawn to a cell cycle interacting protein, and a method for identifying and obtaining an activator or inhibitor of cell division.

Group IV, claim 12, drawn to an antibody that specifically recognizes a cell cycle interacting protein.

Group V, claims 24-29, drawn to a regulatory sequence, a host cell, a transgenic plant and a method for identification of an activator or inhibitor of cell cycle interacting proteins or their encoding genes.

Group VI, claims 31 and 33, drawn to a method of producing a therapeutic agent and a method of producing a therapeutic composition.

Group VII, claims 32 and 33, drawn to a method of producing a plant effective agent and a method of producing a plant effective composition.

Group VIII, claim 34, drawn to an activator or inhibitor of cell division.

Group IX, claims 41-43, drawn to a method for improving the tolerance of plants toward suboptimal nutrient conditions, and a method for providing enhanced rate or frequency of seed germination.

Group X, claims 44-46, drawn to a method of positive or negative selection.

Group A, SEQ ID NO:1 AND SEQ ID NO:2.

Group B, SEQ ID NO:3 AND SEQ ID NO:4.

Group C, SEQ ID NO:33 AND SEQ ID NO:34.

Group D, SEQ ID NO:35 AND SEQ ID NO:36.

Group E, SEQ ID NO:37 AND SEQ ID NO:38.

Group F, SEQ ID NO:39 AND SEQ ID NO:40.

Group G, SEQ ID NO:41 AND SEQ ID NO:42.

Group H, SEQ ID NO:5 AND SEQ ID NO:6.

Group I, SEQ ID NO:7 AND SEQ ID NO:8.

Group J, SEQ ID NO:9 AND SEQ ID NO:10.

Group K, SEQ ID NO:11 AND SEQ ID NO:12.

Group L, SEQ ID NO:13 AND SEQ ID NO:14.

In support of the present restriction requirement, the Examiner alleges that the subject matter defined by the claims represents seven distinct inventions stating that "the inventions listed as Groups I-X do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features."

As indicated, and in order to be fully responsive to the Examiner's requirement for restriction, Applicants provisionally elect to prosecute the subject mater of Group I, Claims 1, 4-9, 10 and 14-23, and reserve the right to file one or more divisional applications directed to the non-elected subject matter in this application. Further, Applicants elect with traverse, SEQ ID NOS: 7 and 8 (Group I) as the DNA sequences in these claims.

Pursuant to 37 C.F. R. § 1.111 and § 1.143, Applicant hereby traverses the Examiner's requirement for restriction for the following reasons.

An Examiner's authority to require restriction is defined and limited by statute:

> If two or more <u>independent and distinct</u> inventions are claimed in one application, the Commissioner may require the application to be restricted to one of the inventions.

35 U.S.C. 121, first sentence (emphasis added).

The rules which the PTO follows in implementing unity of invention considerations in PCT applications are found in 37 C.F.R. 1.475-1.477, 1.499, and MPEP 18903.03(d). Whether an application is at the international or national stage, PCT Rule 13 governs governs a unity of invention analysis.

When making a lack of unity of invention requirement, the Examiner must (1) list the different groups of claims and (2) explain why each group lacks unity with each other group i.e., why there is no single general inventive concept specifically describing the unique special technical feature in each group.

Under PCT Rule 13, a group of inventions is considered linked to form a single general inventive concept where there is a technical relationship among the inventions that involves at least one common or corresponding special technical feature. The expression "technical feature" is defined as meaning those technical features that define the contribution which each claimed invention, considered as a whole, makes over the prior art.

Notwithstanding the Examiner's characterization of the present invention, Applicant respectfully submits that Groups I-X with the exception of Group IX, form a single group in view that the technical feature linking the allegedly distinct inventions is not a DNA sequence encoding a cell cycle interacting protein, but resides in the provision of the newly elected sequences of SEQ ID NOS:7 and 8 (HAL3) which are novel and inventive sequences. Alternatively, Applicants request regrouping of at least the claims on DNA for HAL3 (Group I) and claims on therapeutic and plant effective agents (Groups VI and VII) for the reasons outlined below. The HAL3 protein (SEQ ID NOS:7 and 8), since it interacts with cdc2b but not with cec2a, plays a specific role in the plant cell cycle. HAL3 can thus play a role in a strategy to protect plants against diseases in which the cell cycle is altered, such as those

caused by Gemini viruses or nematodes, as outlined in the specification on page 49. In yeast, it was shown that HAL3p is an inhibitor of the Ppz1 phosphatase, leading to increased salt and lithium tolerance. Since in plants, salt stress, osmotic stress, drought stress and cold stress are linked to each other, it is likely that HAL3 contributes to increased environmental stress tolerance. Furthermore, the HAL3 protein or its corresponding gene can be used as a target for the identification of mimetic compounds that act as activator/enhancer or inhibitor/suppressor of gene expression or protein activity, which is detailed in the specification on pages 51-58. These compounds may find useful application in agriculture or in pharmaceutical compositions, since the cell cycle in plants and animals is very conserved. Basis for this can be found on page 58 to 60 of the specification.

HAL3 is therefore a suitable target for the development of plants to stresses or diseases, or for the identification of substances that induce expression of or activate the protein, which then can be used in pharmaceutical compositions or compositions for plant protection. Applicants therefore request the regrouping of claims on DNA for HAL3 (Group I) and claims on therapeutic and plant effective agents (Groups VI & VII).

With respect to sequences A to L, again, the sequences of Group I have been elected with traverse. Applicants respectfully request regrouping of the sequences of Groups (A), (B) and (H) to (L) since these sequences are novel, have been isolated for the first time with the use of a two-hybrid screening technique, and have been demonstrated for the first time as ligands of cyclin-dependent kinases. Alternatively, Applicants request the regouping of sequences of Groups (B), (C), (D), (E), (F) and (G). These sequences are related to each other and represent PHO80-like proteins, forming a novel class of this protein.

The courts have recognized that it is in the public interest to permit applicants to claim several aspects of their invention together in one application, as the Applicant has done herein. The CCPA has observed:

> We believe the constitutional purpose of the patent system is promoted by encouraging applicants to claim, and therefore to describe in the manner required by 35 U.S.C. § 112 all aspects as to what they regard as their invention, regardless of the number of statutory classes involved.

In re Kuehl, 456 F.2d 658, 666, 117 U.S.P.Q. 250, 256 (CCPA 1973).

This interest is consistent with the practical reality that a sufficiently detailed disclosure supporting claims to one aspect of an invention customarily is sufficient to support claims in the same application to other aspects of the invention.

Applicants respectfully suggest that in view of the continued increase of official fees and the potential limitation of an applicant's financial resources, a practice which arbitrarily imposes restriction requirements may become prohibitive and thereby contravene the constitutional purpose to promote and encourage the progress of science and the useful arts. Moreover, under the regulatory changes as a consequence of the General Agreement on Trade and Tariffs (GATT), Applicants are required to conduct simultaneous prosecution, as here, requiring excessive filing costs or a compromise of the term of their patent assets.

It is vital to all applicants that restriction requirements issue only with the proper statutory authorization, because patents issuing on divisional applications which are filed to prosecute claims that the Examiner held to be independent and distinct can be vulnerable to legal challenges alleging double patenting. The third sentence of 35 U.S.C. § 121, which states that a patent issuing on a parent application "shall not be used as a reference" against a divisional application or a patent issued thereon, does not provide comfort to applicants against such allegations. The Court of Appeals for the Federal Circuit has declined to hold

that § 121 protects a patentee from an allegation of same-invention double patenting, *Studiengesellschaft Kohle mbH v. Northern Petrochemical Co.*, 784 F.2d 351, 355, 228, U.S.P.Q. 837, 840 (Fed. Cir. 1986). *In Gerber Garment Technology Inc. v. Lectra Systems Inc.*, 916 F.2d 683, 16 U.S.P.Q. 2d 436 (Fed. Cir. 1990), the Federal Circuit held that § 121 does not insulate a patentee from an allegation of "obviousness-type" double patenting, and in fact affirmed the invalidation on double patenting grounds of a patent that had issued from a divisional application filed following a restriction requirement. Furthermore, it is far from clear that the step of filing a terminal disclaimer is available to resolve a double patenting issue that arises after the issuance of a patent on the divisional application.

All these considerations indicate that the imposition of a restriction requirement with inadequate authority can lead to situations in which an applicant's legitimate patent rights are exposed to uncertainty and even extinguished. Accordingly, to protect a patentee's rights and to serve the public's interest in the legitimacy of issued patents, applicant respectfully urges the Examiner not to require restriction in cases such as the present application wherein various aspects of a unitary invention are claimed.

Hence, it is again respectfully urged that the Examiner reconsider and withdraw the requirement for restriction and provide an action on the merits with respect to all the claims.

Alternatively, Applicants respectfully request that Group I-VIII and X be rejoined. As still another alternative, Applicants respectfully request that Groups I, VI and VII be rejoined.

In addition, it is respectfully requested that the sequences of Groups (A), (B) and (H)-(L) be rejoined. Alternatively, Applicants respectfully request regrouping of the sequences of Groups (B), (C), (D), (E), (F) and (G).

Respectfully submitted,

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